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SEASONAL LABOR NEEDS FOR CALIFORNIA CROPS

ORANGE COUNTY

Progress Report No. 30

by

R. L. Adams

June, 1936

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SEASONAL LABOR NEEDS FOR CALIFORNIA CROPS

-ORANGE COUNTY-

Progress Report No. 20

by

R. L. Adams

June, 1936

(Farm Labor Survey -- January-June, 1936)

Progress Report #30 June, 1936

Seasonal Labor Needs for California Crops

Orange County

Scope of Presentation.-- The following considerations govern the presentation of this progress report:

1. The data are confined to the area indicated above.

2. The data are confined solely to crops, livestock needs being ignored.

3. The findings apply only to occasional or seasonal labor requirements as distinquished from labor contributed by farm operators and by workers employed on a year-round or regular basis of employment.

4. Attention is concentrated upon workers required for hand tasks -- planting, thinning, weeding, hoeing, and harvesting -- without including teamsters, tractor drivers, irrigators, hay balers, threshermen, and shed packers of vegetables or fruits.

5. The presentation includes the so-called migratory, transient, or roving workers which comprise an important source of help needed in connection with certain tasks and at "peak" times which seasonally arise in connection with many field, truck, and fruit crops commercially produced in California.

6. This report is confined to California's need for seasonal agricultural workers because of the more pressing problems liable to arise in connection therewith. A later study is planned which will deal with other kinds of labor involved in the production of California's many crops.

Brief Description of the Area.-- Orange County is one of the southern coast counties of California, its northern boundary being about twenty miles southeast of the city of Los Angeles. It is bounded on the southeast by San Diego County, on the east by Riverside County, and for a short distance by San Bernardino County, on the northwest by Los Angeles County and on the southwest by the shore of the Pacific Ocean for some 40 miles.

The most important agricultural area is in the northwest portion of the county, roughly about 20 miles square, and contiguous to the cities of Santa Ana, Anaheim, Tustin, Garden Grove, Fullerton, and others. This is a part of the Coastal Plain, and lies mostly under 200 feet in elevation, sloping gradually southwestward to the ocean.

The soils are mostly of the lighter textures -- sandy loam, and fine sandy loam, with smaller areas of sand, clay loam, and clay. Several different series are represented. Practically all of the soils are six feet or more in depth.

Crops, Acreage, and Production.-- The basis used in calculating occasional or seasonal need for labor in addition to that furnished by farm operators and regularly employed workers appears as table 1.

(Farm Labor Survey -- January-June, 1938)

Progress Report #2C June, 1938

Seasonal Labor Needs for California Crops

Orange County

Scope of Presentation.-- The following considerations govern the presentation of this progress report:

1. The data are confined to the area indicated above.

2. The data are confined solely to crops. Livestock needs being ignored.

3. The findings apply only to seasonal or seasonal labor requirements as distinguished from labor contributed by farm operators and by workers employed on a year-round or regular basis of employment.

4. Attention is concentrated upon workers required for hand tasks -- planting, thinning, weeding, hoeing, and harvesting -- without including tomsetters, tractor drivers, irrigators, hay balers, threshermen, and shed packers of vegetables or fruits.

5. The presentation includes the so-called migratory, transient, or roving workers which comprise an important source of help needed in connection with certain tasks and at "peak" times which seasonally arise in connection with many field, truck, and fruit crops commercially produced in California.

6. This report is confined to California's need for seasonal agricultural workers because of the more pressing problems likely to arise in connection therewith. A later study is planned which will deal with other kinds of labor involved in the production of California's many crops.

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Crops, Acreage, and Production.-- The basis used in calculating seasonal or seasonal need for labor in addition to that furnished by farm operators and regularly employed workers appears as table 1.

TABLE 1

Basis for Calculating Seasonal Labor Requirements -- Orange County ||

Crop	Acreage	Production
Field crops:		
Beans:		
Standard limas	27,796	29,018,966 pounds
Baby limas*	95	69,710 pounds
Blackeyes	8,637	5,872,848 pounds
Others*	375	185,500 pounds
Beets, sugar,	6,780	58,627 tons
Grain:		
Barley 8,528 acres 7,473 tons)		
Oats 116 acres 110 tons)	9,588	7,970 tons
Wheat 944 acres 387 tons)		
Corn, field	121	81 tons
Corn, pop	177	69 tons
Hay:		
Alfalfa	4,344	(11,375 tons dry † (34,792 tons green
Barley and oat	17,054	20,280 tons
Onions	106	1,265 tons
Potatoes, Irish	236	64,985 lugs
Potatoes, sweet	240	39,524 lugs
Seed:		
Tomato	330	35,000 pounds
Pepper	57	3,554 pounds
Straw, grain and bean		23,002 tons
Vegetable crops:		
Asparagus	192	19,594 crates
Beans, green	1,248	46,459 crates
Berries:		
Straw	567	219,149 crates
Other	95	29,435 crates
Bunch vegetables	107	33,796 crates
Cabbage	474	89,998 crates
Cauliflower and broccoli*	55	17,313 crates
Celery	220	74,450 crates
Corn, sweet	1,185	139,582 lugs
Cucumbers	186	(50,630 lugs of 25 (pounds (230 tons
Lettuce	217	30,435 crates
Melons:		
Cantaloupes*	65	3,960 crates
Watermelons*	50	201 tons
Peas	741	(1,262,689 pounds (21,044 crates of (60 pounds
Peppers:		
Bell	29	121 tons
Chili	2,585	(1,850 tons dry ‡ (51 tons green
Gem	80	(34 tons dry (36 tons green

Table 1 continued on next page.

TABLE 1

Basis for Calculating Seasonal Labor Requirements -- Orange County [1]

Crop	Average	Production
Field crops:		
Beans:		
Blackeye	27,796	29,018,966 pounds
Baby Lima*	95	69,710 pounds
Blackeye	6,627	5,872,648 pounds
Other*	375	185,600 pounds
Beets, sugar	6,780	58,627 tons
Grain:		
Barley 8,529 acres 1,473 tons)		
Oats 115 acres 110 tons)	9,588	7,970 tons
Wheat 964 acres 387 tons)		
Corn, field	121	81 tons
Corn, pop	177	49 tons
Hay:		
Alfalfa	4,344	(11,375 tons dry †
		(34,782 tons green
Barley and oat	17,054	20,480 tons
Chicha	106	1,168 tons
Potatoes, Irish	256	64,958 lbs
Potatoes, sweet	240	35,524 lbs
Seed:		
Tomato	350	25,000 pounds
Pepper	57	3,554 pounds
Straw, grain and bean		<3,002 tons
Vegetable crops:		
Asparagus	192	19,554 crates
Beans, green	1,248	46,452 crates
Berries:		
Straw	562	219,149 crates
Other	98	82,453 crates
Bunch vegetables	102	33,754 crates
Cabbage	474	85,308 crates
Cauliflower and broccoli*	55	17,215 crates
Celery	220	74,480 crates
Corn, sweet	1,186	139,658 lbs
Cucumbers	186	(50,480 lbs or 25
		pounds
		(230 tons
Lettuce	217	30,455 crates
Melons:		
Cantaloupe*	65	3,960 crates
Watermelons*	50	201 tons
Peas	141	(1,262,688 pounds
		(21,064 crates of
		60 pounds)
Peppers:		
Bell	29	121 tons
Chili	2,585	(1,850 tons dry †
		(51 tons green
Okra	80	(24 tons dry
		(56 tons green

Table 1 continued on next page

Table 1 continued.

Crop	Acreage	Production
Vegetable crops (cont'd.)		
Peppers (cont'd.)		
Paprika	23	22 tons
Pimiento	163	455 tons
Rhubarb *	20	517,070 pounds
Spinach (canning)	539	1,699 tons
Squash	272	(23,845 lugs (25 tons
Tomatoes	5,883	(1,118,431 lugs (9,093 tons
Orchard crops (bearing acreage)		
Apples*	26	1,150 boxes
Apricots*	35	(2,900 lugs (2½ tons
Avocados	1,047	3,270,785 pounds
Citrus:		
Grapefruit	412	81,800 packed boxes
(under 5 years)	329	--
Lemons	6,431	896,515 packed boxes 1,013 cars of by-products ℘
(under 5 years)	653	--
Oranges, Navels	1,065	289,805 packed boxes ¶
(under 5 years)	100	--
Oranges, Valencias	52,823	10,200,136 packed boxes ¶
(under 5 years)	8,997	--
Figs*	8	8,900 pounds
Grapes*	68	166,500 pounds
Loquats*	14	6,693 lugs
Olives*	120	26,950 pounds
Peaches*	34	4,235 lugs
Pears*	45	758 lugs
Persimmons	407	1,733,500 pounds
Walnuts	6,794	7,775 tons

// Acreage and production figures are taken from Agricultural Crop Report, Orange County, 1935, by D. W. Tubbs, Agricultural Commissioner, unless noted.

* Use of seasonal labor inconsequential and hence ignored.

† Alfalfa cured as hay estimated to be the product of about 1,900 acres.

ǂ The drying ratio on Chili peppers is about 6 to 1.

℘ Data on lemons used for by-products are from California Fruit Growers Exchange. Figures on a basis of 348 packed boxes of 76 pounds net per car, the total production of all lemons would amount to 1,898,540 field boxes of 50 pounds.

¶ The California - Arizona Orange Grapefruit Agency estimates the 1934-35 production of oranges including culls in Orange County at 24,201,61 standard cars. Figured on a basis of 462 packed boxes of 72 pounds net per car, this would amount to 14,636,764 field boxes of 55 pounds net.

Table 1 continued.

Crop	Acreage	Production
Vegetable crops (cont'd.)		
Peppers (cont'd.)		
Paprika	23	2- tons
Pimiento	163	455 tons
Rubarb "	20	817,070 pounds
Spinach (canning)	529	1,695 tons
Squash	272	(23,845 lugs
		(25 tons
Tomatoes	5,883	(1,118,493 lugs
		(9,029 tons
Orchard crops (bearing acreage)		
Apples*	26	1,150 boxes
Apricots*	35	(2,500 lugs
		(24 tons
Avocados	1,047	3,270,785 pounds
Citrus:		
Grapefruit	412	81,800 packed boxes
(under 5 years)	329	--
Lemons	6,491	886,815 packed boxes
		1,013 cwts of by-products ?
(under 5 years)	682	--
Oranges, Navels	1,065	289,405 packed boxes ?
(under 5 years)	330	--
Oranges, Valencias	83,603	10,500,136 packed boxes ?
(under 5 years)	6,897	--
Plums*	8	6,800 pounds
Prunes*	58	145,500 pounds
Walnuts*	15	5,652 lugs
Miscellaneous*	520	28,960 pounds
Grapefruit*	54	4,435 lugs
Lemons*	46	756 lugs
Oranges*	407	1,755,600 pounds
Walnuts	6,294	7,795 tons

Acreage and production figures are taken from Agricultural Crop Report, Orange County, 1935, by D. W. Tubbs, Agricultural Commissioner, unless noted.

? Data of seasonal labor inconsequential and hence ignored.

* Acreage cured as may estimated to be the product of about 1,500 acres.

The drying ratio on Chili peppers is about 6 to 1.

@ Data on lemons used for by-products are from California Fruit Growers Exchange. Figures on a basis of 360 packed boxes of 76 pounds net per car, the total production of all lemons would amount to 1,898,640 field boxes of 80 pounds.

% The California - Arizona Orange Growers Association estimates the 1934-35 production of oranges including navels in Orange County at 14,501,411 standard cars. Figured on a basis of 400 packed boxes of 74 pounds net per car, this would amount to 14,638,744 field boxes of 80 pounds net.

Operations Requiring the Use of Seasonal Labor and Times of Need.-- Farm operations requiring the use of seasonal or occasional labor for the various crops raised in Orange County are indicated in table 2. This tabulation does not include the employing of shed workers needed to wash, pack, and prepare various commodities for shipping and marketing.

TABLE 2

Operations Requiring Use of Seasonal Labor and Times of Needs by Crops -- Orange County

Crop	Operation	Time of Need
Field crops:		
Beans, lima	Hoeing (twice)	June 15-30 (half of acreage) July 1-31 (all acreage) Aug. 1-15 (half of acreage)
	Piling	Sept. 1-30 (all)
	Threshing	Sept. (50 per cent of crop) Oct. (50 per cent of crop)
Beans, blackeye	Hoeing (twice)	June (all acreage) July (all acreage)
	Piling	August
	Threshing	Sept. 1-30 (all)
Sugar beets	Thinning	Feb. (15 per cent of acreage) Mar. (50 per cent of acreage) April (35 per cent of agreage)
	Hoeing, first	Apr. (50 per cent of acreage) May (50 per cent of acreage)
	second	May (50 per cent of acreage) June (50 per cent of acreage)
	Topping and loading	Aug. (one-third of crop) Sept.(one-third of crop) Oct. (one-third of crop)
Grain (mostly barley)	Harvesting by combine (60 per cent by seasonal workers)	June (50 per cent of acreage) July (50 per cent of acreage)
Field corn	Suckering (50 per cent by seasonal workers)	July
	Husking	Sept. 1-30 (50 per cent of crop) Oct. 1-31 (50 per cent of crop)

Table 2 continued on next page.

Operations Requiring the Use of Seasonal Labor and Times of Need.-- Farm operations requiring the use of seasonal or occasional labor for the various crops raised in Orange County are indicated in table 2. This tabulation does not include the employing of shed workers needed to wash, pack, and prepare various commodities for shipping and marketing.

TABLE 2

Operations Requiring Use of Seasonal Labor and Times of Need
by Crops -- Orange County

Crop	Operation	Time of Need
Field crops:		
Beans, lima	Hoeing (twice)	June 15-30 (half of acreage)
		July 1-31 (all acreage)
		Aug. 1-15 (half of acreage)
	Piling	Sept. 1-30 (all)
	Threshing	Sept. (50 per cent of crop)
		Oct. (50 per cent of crop)
Beans, blackeye	Hoeing (twice)	June (all acreage)
		July (all acreage)
	Piling	August
	Threshing	Sept. 1-30 (all)
Sugar beets	Thinning	Feb. (15 per cent of acreage)
		Mar. (50 per cent of acreage)
		April (35 per cent of acreage)
	Hoeing, first	Apr. (50 per cent of acreage)
		May (50 per cent of acreage)
	second	May (50 per cent of acreage)
		June (50 per cent of acreage)
	Topping and loading	Aug. (one-third of crop)
		Sept. (one-third of crop)
		Oct. (one-third of crop)
Grain (mostly barley)	Harvesting by combine (50 per cent by seasonal workers)	June (50 per cent of acreage)
		July (50 per cent of acreage)
Field corn	Suckering (50 per cent by seasonal workers)	July
	Hueking	Sept. 1-30 (50 per cent of crop).
		Oct. 1-31 (50 per cent of crop)

Table 2 continued on next page.

Table 2 continued.

Crop	Operation	Time of need
Field crops (cont'd.)		
Popcorn	Suckering (50 per cent by seasonal workers)	May 24-31 (20 per cent of acreage) June 1-30 (80 per cent of acreage)
	Husking	Sept. 15-30 (30 per cent of crop) Oct. 1-31 (60 per cent of crop) Nov. 1- 7 (10 per cent of crop)
Hay, alfalfa	Mowing, raking, shocking (50 per cent by seasonal workers)	May to October
	Baling (80 per cent by seasonal workers)	May (one-sixth of tonnage) June (one-sixth of tonnage) July (one-sixth of tonnage) Aug. (one-sixth of tonnage) Sept. (one-sixth of tonnage) Oct. (one-sixth of tonnage)
Grain hay	Baling (80 per cent by seasonal workers)	June (25 per cent of crop) July (50 per cent of crop) Aug. (25 per cent of crop)
Potatoes, Irish	Cutting seed (10 sacks per acre) (33 per cent by seasonal workers)	Jan. 15-30 (37½ per cent) Feb. 1-30 (37½ per cent) Mar. 1-31 (25 per cent)
	Hoeing (once)	March
	Picking up	May (one-third of crop) June (one-third of crop) July (one-third of crop)
Potatoes, sweet	Picking up and boxing (75 per cent by seasonal workers)	Sept. 20-30 (10 per cent of crop) Oct. 1-31 (60 per cent of crop) Nov. 1-30 (30 per cent of crop)
Seed: Tomato	Washing out seed (other operations same as for canning tomatoes, and included with them)	Sept. (37½ per cent of crop) Oct. (37½ per cent of crop) Nov. (25 per cent of crop)
Bean (included in other bean acreage)		
Straw (mostly bean straw)	Baling (80 per cent by seasonal workers)	Sept. (one-half) Oct. (one-half)

Table 2 continued on next page.

Table 2 continued

Crop	Operation	Time of need
Vegetable crops:		
Asparagus	Cutting and packing (90 per cent by seasonal workers)	Mar.(10 per cent of crop) Apr.(30 per cent of crop) May (35 per cent of crop) June(22 per cent of crop) July 1-15 (3 per cent of crop)
Berries:		
Strawberries	Setting out new plants (about 275 acres annually) (40 per cent by seasonal workers)	Dec. (5 per cent of new acreage) Jan. (50 per cent of new acreage) Feb. (25 per cent of new acreage) Mar. (15 per cent of new acreage) Apr. (5 per cent of new acreage)
	Picking (66 per cent by seasonal workers)	Mar. 15-31 (10 per cent of crop) Apr. 1-30 (35 per cent of crop) May 1-31 (30 per cent of crop) June 1-30 (25 per cent of crop)
Bushberries	Trellising	Jan. (33 per cent) Feb. (33 per cent) Mar. (33 per cent)
	Picking	May (10 per cent of crop) June (50 per cent of crop) July (30 per cent of crop) Aug. (10 per cent of crop)
Cabbage	Planting (80 per cent by seasonal workers	Oct. 15-31 (10 per cent of acreage) Nov. 1-30 (20 per cent of acreage) Dec. 1-31 (30 per cent of acreage) Jan. 1-31 (40 per cent of acreage)
	Hoeing (once) (60 per cent by seasonal workers)	Nov. (10 per cent of acreage) Dec. (20 per cent of acreage) Jan. (30 per cent of acreage) Feb. (40 per cent of acreage)
	Dusting (1½ times) (50 per cent by seasonal workers)	January (all)
	Cutting (carlot shipments) (80 per cent by seasonal workers)	Jan. (9 per cent of shipments) Feb. (17 per cent of shipments) Mar. (15 per cent of shipments) Apr. (45 per cent of shipments) May (14 per cent of shipments)

Table 2 continued on next page.

Table 2 continued

Crop	Operation	Time of need
Vegetable crops (cont'd.):		
Cabbage (cont'd.)	Packing	Jan. (9 per cent of shipments) Feb. (17 per cent of shipments) Mar. (15 per cent of shipments) Apr. (45 per cent of shipments) May (14 per cent of shipments)
Celery	Harvesting	Jan. (8 per cent of crop) Feb. (6 per cent of crop) Mar. (9 per cent of crop) Apr. (5 per cent of crop) May (10 per cent of crop) June (11 per cent of crop) July (12 per cent of crop) Aug. (10 per cent of crop) Sept. (5 per cent of crop) Oct. (6 per cent of crop) Nov. (8 per cent of crop) Dec. (10 per cent of crop)
Corn, sweet (based on truck unloads at Los Angeles from local district)	Hoeing (50 per cent by seasonal workers)	April (40 per cent of acreage) May (30 per cent of acreage) June (30 per cent of acreage)
	Suckering (50 per cent by seasonal workers)	April (10 per cent of acreage) May (30 per cent of acreage) June (30 per cent of acreage) July (30 per cent of acreage)
	Picking and packing (80 per cent by seasonal workers)	June 10-30 (10 per cent of crop) July 1-31 (29 per cent of crop) Aug. 1-31 (28 per cent of crop) Sept. (22 per cent of crop) Oct. (8 per cent of crop)
Cucumbers	Planting and capping (50 per cent by seasonal workers)	Jan. (50 per cent of acreage) Feb. (50 per cent of acreage)
	Removing caps, hoeing, thinning, and replacing caps (50 per cent by seasonal workers)	March
	Picking (66 per cent by seasonal workers)	May 15-31 (25 per cent of crop) June 1-30 (75 per cent of crop)
Peas	Picking	Nov. (3 per cent of crop) Dec. 1-31 (20 per cent of crop) Jan. 1-31 (30 per cent of crop) Feb. 1-30 (30 per cent of crop) Mar. 1-31 (14 per cent of crop) Apr. (3 per cent of crop)

Table 2 continued on next page.

Table 2 continued.

Crop	Operation	Time of need
Vegetable crops (cont'd.): Peppers (all varieties)	Thinning and resetting (75 per cent by seasonal workers)	May 15-31 (50 per cent of acreage) June 1-15 (50 per cent of acreage)
	Hoeing on 1/2 of acreage (3 times) (75 per cent by seasonal workers)	May (50 per cent of acreage once) June (50 per cent of acreage once) July (50 per cent of acreage once)
	Picking (green Chili) for canning	Sept. 1-30 (60 per cent of crop) Oct. 1-31 (40 per cent of crop)
	Picking for drying	Oct. 1-31 (40 per cent of crop) Nov. 1-30 (40 per cent of crop) Dec. 1-25 (20 per cent of crop)
	Picking pimientos	Sept. 15-30 (25 per cent of crop) Oct. 1-31 (50 per cent of crop) Nov. 1-15 (25 per cent of crop)
Spinach (canning)	Harvesting (by hand with special fork)	Jan. (20 per cent of crop) Feb. (40 per cent of crop) Mar. (40 per cent of crop)
Squash	Planting by hand and capping (50 per cent of acreage)	Jan. (50 per cent) Feb. (50 per cent)
	Planting (without caps) (on 50 per cent of acreage)	Jan. (50 per cent) Feb. (50 per cent)
	Picking (66 per cent by seasonal workers)	May 15-31 (50 per cent of crop) June 1-15 (50 per cent of crop)
String beans	Thinning and hoeing (spring crop) (25 per cent by seasonal workers)	February (spring acreage)
	Hoeing (3 times) (25 per cent by seasonal workers)	Feb. (once on all acreage) Mar. (twice on all acreage)
	Picking (spring crop) (2/3 of acreage)	Mar. 21-31 (1 per cent of crop) Apr. 1-30 (3 per cent of crop) May 1-30 (15 per cent of crop) June (25 per cent of crop) July (20 per cent of crop)
	Picking (fall crop) (1/3 of acreage)	Aug. (10 per cent of crop) Sept. (10 per cent of crop) Oct. (10 per cent of crop)

Table 2 continued on next page.

Table 2 continued.

Crop	Operation	Time of need
Vegetable crops (cont'd.):		
String beans (cont'd.)	Picking (fall crop) (cont'd.)	Nov. (4 per cent of crop) Dec. (2 per cent of crop)
Tomatoes	Planting in field (70 per cent by seasonal workers)	Jan. (20 per cent of acreage) Feb. (10 per cent of acreage) Mar. (10 per cent of acreage) Apr. (10 per cent of acreage) May (30 per cent of acreage) June (15 per cent of acreage)
	Hoeing (50 per cent by seasonal workers)	April (30 per cent of acreage) May (30 per cent of acreage) June (30 per cent of acreage) July (15 per cent of acreage) Aug. (5 per cent of acreage)
	Dusting (twice on 50 per cent of acreage) (60 per cent by seasonal workers)	June (25 per cent of acreage) July (25 per cent of acreage) Aug. (25 per cent of acreage) Sept. (25 per cent of acreage)
	Picking for market (85 per cent by seasonal workers)	June (2 per cent of crop) July (22 per cent of crop) Aug. (23 per cent of crop) Sept. (21 per cent of crop) Oct. (17 per cent of crop) Nov. (9 per cent of crop) Dec. (5 per cent of crop)
	Picking for canning	Aug. (20 per cent of crop) Sept. (30 per cent of crop) Oct. (30 per cent of crop) Nov. (20 per cent of crop)
Orchard crops:		
Citrus:		
Lemons	Picking*	Nov. (3.3 per cent of crop) Dec. (7.4 per cent of crop) Jan. (13.5 per cent of crop) Feb. (19.2 per cent of crop) Mar. (18.0 per cent of crop) Apr. (12.0 per cent of crop) May (9.9 per cent of crop) June (5.2 per cent of crop) July (4.9 per cent of crop) Aug. (2.7 per cent of crop) Sept. (2.5 per cent of crop) Oct. (1.4 per cent of crop)

Table 2 continued on next page.

Table 2 continued.

Crop	Operation	Time of need
Orchard crops (cont'd.):		
Citrus (cont'd.):		
Oranges	Picking (based on 1935 carlot shipments)	Jan. (1.3 per cent of crop) Feb. (0.7 per cent of crop) Mar. (0.3 per cent of crop) Apr. (3.3 per cent of crop) May (11.7 per cent of crop) June (13.5 per cent of crop) July (19.3 per cent of crop) Aug. (16.5 per cent of crop) Sept. (13.1 per cent of crop) Oct. (14.6 per cent of crop) Nov. (5.1 per cent of crop) Dec. (0.6 per cent of crop)
Grapefruit	Picking	May (30 per cent of crop) June (30 per cent of crop) July (30 per cent of crop) Aug. (10 per cent of crop)
All varieties	Fumigating (on 1/3 of total acreage--or about 20,200 acres)	July 15-31 (6 per cent of acreage fumigated) Aug. 1-31 (20 per cent of acreage fumigated) Sept. 1-30 (10 per cent of acreage fumigated) Dec. (12 per cent of acreage fumigated) Jan.(15 per cent of acreage fumigated) Feb. (15 per cent of acreage fumigated) Mar. (12 per cent of acreage fumigated) April (10 per cent of acreage fumigated)
	Spraying (on 2/3 of total acreage--or about 40,300 acres)	July 15-31 (5 per cent of acreage) Aug. 1-31 (15 per cent of acreage) Sept.1-30 (20 per cent of acreage) Oct. 1-31 (20 per cent of acreage) Nov. 1-15 (6 per cent of acreage) (a small amount of spraying is done in other months, except January and February)
	Dusting (use of seasonal labor for dusting is inconsequential)	April to October
Persimmons	Picking (75 per cent by seasonal workers)	Oct. 1-31 (90 per cent of crop) Nov. 1-10 (10 per cent of crop)

Table 2 continued on next page.

Table 2 continued.

Crop	Operation	Time of need
Orchard crops (cont'd.): Walnuts	Harvesting (shaking off, picking up and hulling by hand)	Aug. 20-30 (10 per cent of crop) Sept. 1-30 (30 per cent of crop) Oct. 1-31 (55 per cent of crop) Nov. 1-10 (5 per cent of crop)

* Percentage of lemon crop picked each month is based on the average of lemon "picks" of the La Habra Citrus Association and the Orange County Fruit Exchange for the 1934-35 season.

Findings of Seasonal Labor Needs.-- Details and summaries of seasonal labor requirements of Orange County agriculture are presented as table 3. The "size of task" are figures drawn from table 1 in terms of either acreage, or output in tons, crates, boxes, or whatever unit is commonly used. The "output per man-day" is an average figure for the entire acreage or output figured in packed crates, hampers, or boxes (in case of fruits and vegetables). If the work is of a nature that requires a crew, different members of which perform different tasks (such as cutting, trimming, loading, and hauling cauliflower; trimming and crating celery, etc.), then the average shown is per man based on the entire crew. Length of day is 9 hours unless otherwise stated. Wide variations in output occur between farm and farm, field and field, and season and season, because of differences in soil types, climatic conditions, weeds, yields, and other factors influencing the amount of work that a laborer can perform in a given day. Moreover, the basis of output is a mature, experienced male worker without reference to use of women, children, and more or less inexperienced help that is sometimes used in connection with certain of the tasks requiring use of seasonal workers. The column headed "available days" reflects (a) limitations set from the period within which the work must be performed because of the nature of the task, such as transplanting, thinning, weeding, and cutting, and (b) available days as determined by weather conditions, inclement weather reducing the number of days when a required task can be performed. The "required number of individuals" is given in terms of workers as noted above in connection with "output per man-day."

It is probable that the estimated number of workers required, as recorded in table 3, will often be too low, for the reason that "peaks" frequently occur, during which an unusually large proportion of the job is done in a very short period. This would naturally require a much greater number of workers than when the work is spread over a longer period, even though the total amount of labor (in man-days) remains the same.

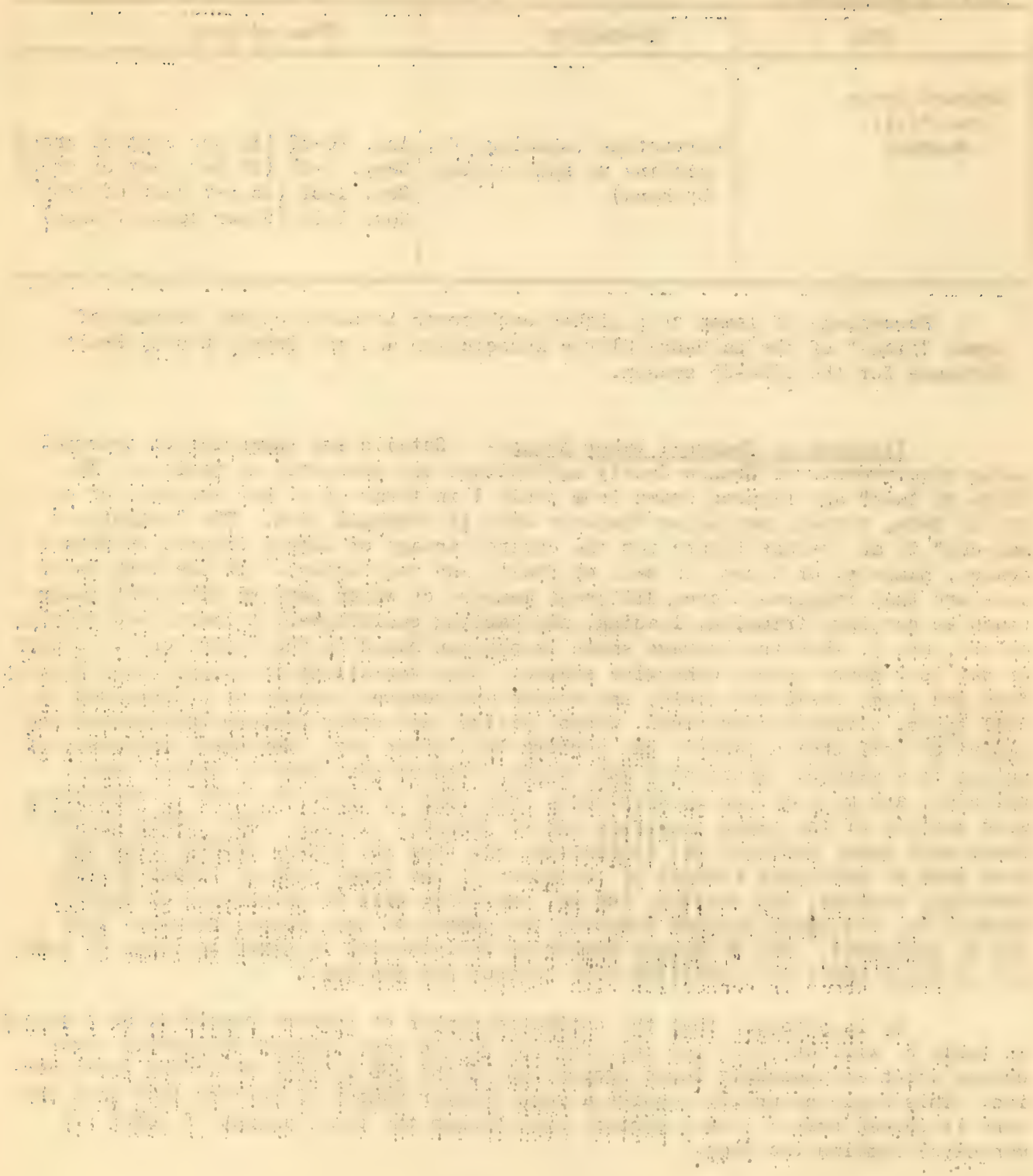

TABLE 3

Seasonal Labor Needs -- Orange County -- by Months and Tasks

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
January	Potatoes, Irish: Cutting seed	288 cwt. †	10 cwt.	29	10	3 (from 15th to 30th)
	Strawberries: Setting out new plants	55 acres †	0.33 acre	165	19	9
	Bushberries: Trellising	32 acres	15 man-days per acre	480	19	26
	Cabbage: Planting	190 acres †	0.33 acre	570	19	30
	Hoeing	85 acres †	0.75 acre	114	19	6
	Dusting (all)	356 acres †	1.5 acres	238	19	13
	Cutting carlot shipments	5,990 crates †	80 crates	75	19	4
	Packing carlot shipments	7,488 crates	45 crates	167	19	9
	Celery: Harvesting	5,956 crates	34 crates	176	19	10
	Cucumbers: Planting and capping	46 acres †	0.25 acre	184	19	10
	Peas: Picking	6,313 crates	2 crates	3,157	19	167
	Spinach: Harvesting for canning	340 tons	1 ton	340	19	18
	Squash: Planting and capping by hand	68 acres	0.5 acre	136	19	8
	Planting without caps by hand	68 acres	2.0 acres	34	19	2
	Tomatoes: Planting in field	870 acres †	0.5 acre	1,740	19	92
	Citrus: Lemons: Picking	256,303 field boxes	21 boxes of 50 pounds	12,205	19	643 ‡
	Oranges: Picking	190,278 field boxes	50 boxes of 55 pounds	3,806	19	201
	All varieties: Fumigating	3,030 acres	0.75 acre	4,040	19	213
	Totals			27,656	19	1,456
February	Sugar beets: Thinning	1,017 acres	0.5 acre	2,034	24	85
	Potatoes, Irish: Cutting seed	288 cwt. †	10 cwt.	29	24	2

Table 3 continued on next page.

Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
February (cont'd)	Strawberries: Setting out new plants	27 acres †	0.33 acre	81	24	4
	Bushberries: Trellising	32 acres	15 man-days per acre	480	24	20
	Cabbage: Hoeing	114 acres †	0.75 acre	151	24	7
	Cutting carlot shipments	10,829 acres †	80 crates	136	24	6
	Packing carlot shipments	13,536 acres	45 crates	301	24	13
	Celery: Harvesting	4,467 crates	34 crates	132	24	6
	Cucumbers: Planting and capping	46 acres †	0.25 acre	184	24	8
	Peas: Picking	6,313 crates	2 crates	3,157	24	132
	Spinach: Harvesting for canning	680 tons	1 ton	680	24	29
	Squash: Planting and capping by hand	68 acres	0.5 acre	136	24	6
	Planting without caps by hand	68 acres	2.0 acres	34	24	2
	Tomatoes: Planting in field	435 acres †	0.5 acre	870	24	37
	Citrus: Lemons: Picking	364,520 field boxes	21 boxes of 50 pounds	17,358	24	724
	Oranges: Picking	102,457 field boxes	50 boxes of 55 pounds	2,050	24	86
	All varieties: Fumigating	3,030 acres	0.75 acre	4,040	24	170
				31,853	24	1,328
March	Sugar beets: Thinning	3,390 acres	0.5 acre	6,780	24	283
	Potatoes, Irish: Cutting seed	192 cwt.†	10 cwt.	20	20	1 (for 20 days)
	Hoeing	236 acres	1.25 acre	189	24	8
	Asparagus: Cutting and packing	1,764 crates †	5 crates	353	24	15
	Strawberries: Setting out new plants	16 acres †	0.33 acre	48	24	2
	Picking	14,610 crates †	4 crates	3,653	12	305 (from 15th to 31st)
	Bushberries: Trellising	32 acres	15 man-days per acre	480	24	20

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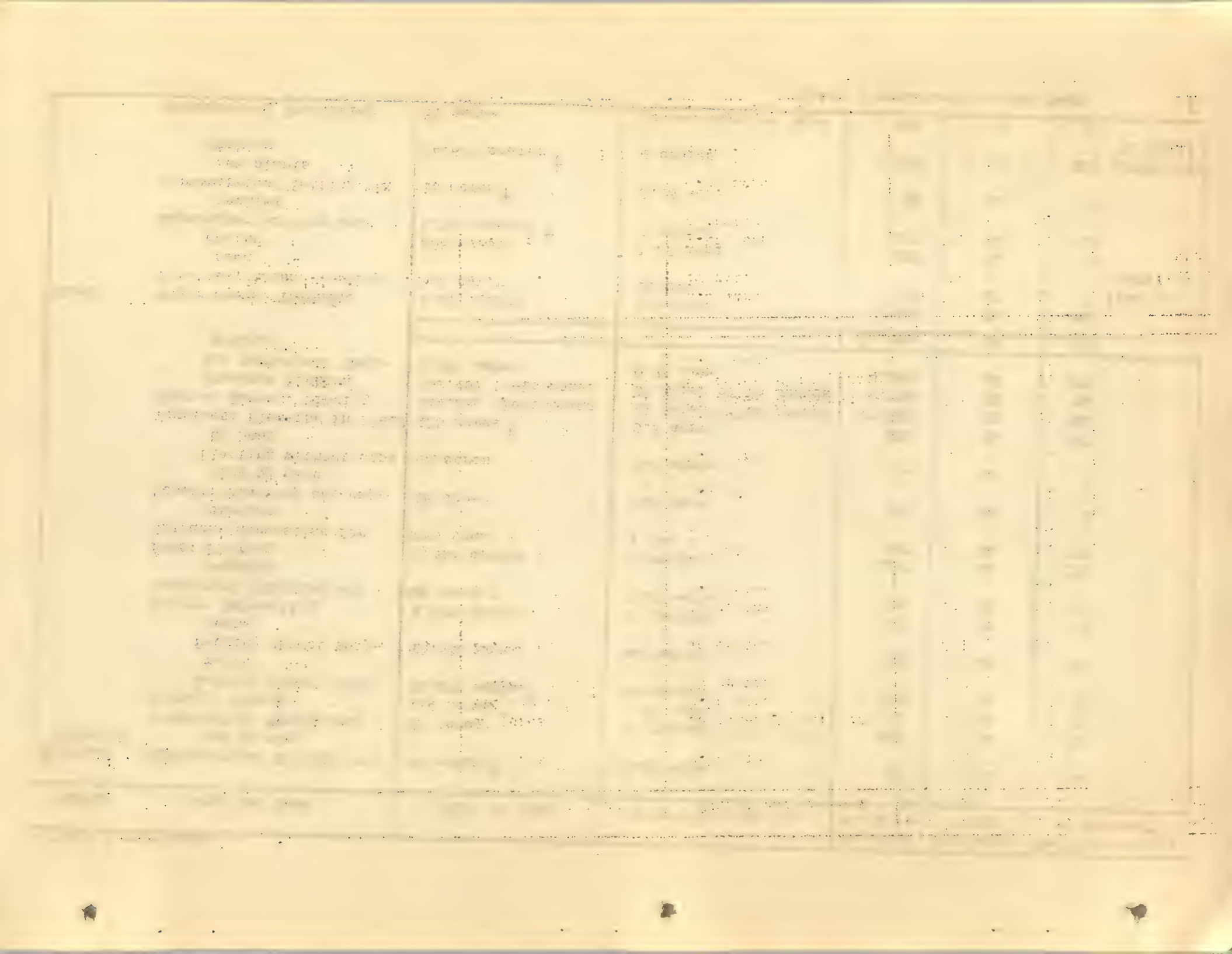

Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
March (cont'd)	Cabbage: Cutting carlot shipments	9,907 crates †	80 crates	124	24	6
	Packing carlot shipments	12,384 crates	45 crates	276	24	12
	Celery: Harvesting	6,700 crates	34 crates	198	24	9
	Cucumbers: Removing caps, hoeing, thinning, and replacing caps	93 acres †	0.25 acre	372	24	16
	Peas: Picking	2,946 crates	2 crates	1,473	24	62
	Spinach: Harvesting for canning	680 tons	1 ton	680	24	29
	String beans: Picking	465 crates	2 crates	233	8	29 (from 21st to 31st)
	Tomatoes: Planting in field	435 acres †	0.5 acre	870	24	37
	Citrus: Lemons: Picking	341,737 field boxes	21 boxes of 50 pounds	16,273	24	678
	Oranges: Picking	43,910 field boxes	50 boxes of 55 pounds	879	24	37
	All varieties: Fumigating	2,424 acres	0.75 acre	3,232	24	135
	Totals			36,133	24	1,506
April	Sugar beets: Thinning	2,373 acres	0.5 acre	4,746	25	190
	Hoeing (first)	3,390 acres	1.5 acres	2,260	25	91
	Asparagus: Cutting and packing	5,290 crates †	5 crates	1,058	25	43
	Strawberries: Setting out new plants	6 acres †	0.33 acre	18	18	1
	Picking	51,135 crates †	6 crates	8,523	25	341
	Cabbage: Cutting carlot shipments	28,570 crates †	80 crates	358	25	15
	Packing carlot shipments	35,712 crates	45 crates	794	25	32
	Celery: Harvesting	3,723 crates	34 crates	110	25	5
	Corn, sweet: Hoeing	237 acres †	1 acre	237	25	10
	Suckering	60 acres †	1 acre	60	25	3
	Peas: Picking	632 crates	2 crates	316	25	13

Table 3 continued on next page.

Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
April (cont'd)	String beans: Picking	1,395 crates	3 crates	465	25	19
	Tomatoes: Planting in field	435 acres †	1.0 acre	435	25	18
	Hoeing	932 acres †	2.0 acres	466	25	19
	Citrus: Lemons: Picking	227,825 field boxes	21 boxes of 50 pounds	10,849	25	434
	Oranges: Picking	483,013 field boxes	50 boxes of 55 pounds	9,660	25	387
	All varieties: Fumigating	2,020 acres	0.75 acre	2,694	25	108
	Totals			43,049	25	1,722
May	Sugar beets: Hoeing (first time)	3,390 acres	1.5 acres	2,260	26	87
	Hoeing (second time)	3,390 acres	3.0 acres	1,130	26	44
	Popcorn: Suckering	18 acres †	1.5 acres	12	6	2 (from 24th to 31st)
	Alfalfa: Mowing	950 acres †	9 acres	106	26	5
	Raking	950 acres †	15 acres	64	26	3
	Shocking	950 acres †	20 acres	48	26	2
	Baling	1,517 tons †	3 tons	506	26	20
	Potatoes, Irish: Picking up	21,662 lugs	125 lugs	174	26	7
	Asparagus: Cutting and packing	6,172 crates †	5 crates	1,235	26	48
	Strawberries: Picking	43,830 crates †	6 crates	7,305	26	281
	Bushberries: Picking	2,943 crates	6 crates	491	26	19
	Cabbage: Cutting carlot shipments	8,986 crates †	80 crates	113	26	5
	Packing carlot shipments	11,232 crates	45 crates	250	26	10
	Celery: Harvesting	7,445 crates	34 crates	219	26	9
	Corn, sweet: Hoeing	178 acres †	1 acre	178	26	7
	Suckering	178 acres †	1 acre	178	26	7
	Cucumbers: Picking	11,505 lugs †	30 lugs	384	13	30 (from 15th to 31st)
	Peppers (all varieties): Thinning and resetting	1,079 acres †	2 acres	540	13	42 (from 15th to 31st)
	Hoeing	1,079 acres †	1.5 acres	720	26	28

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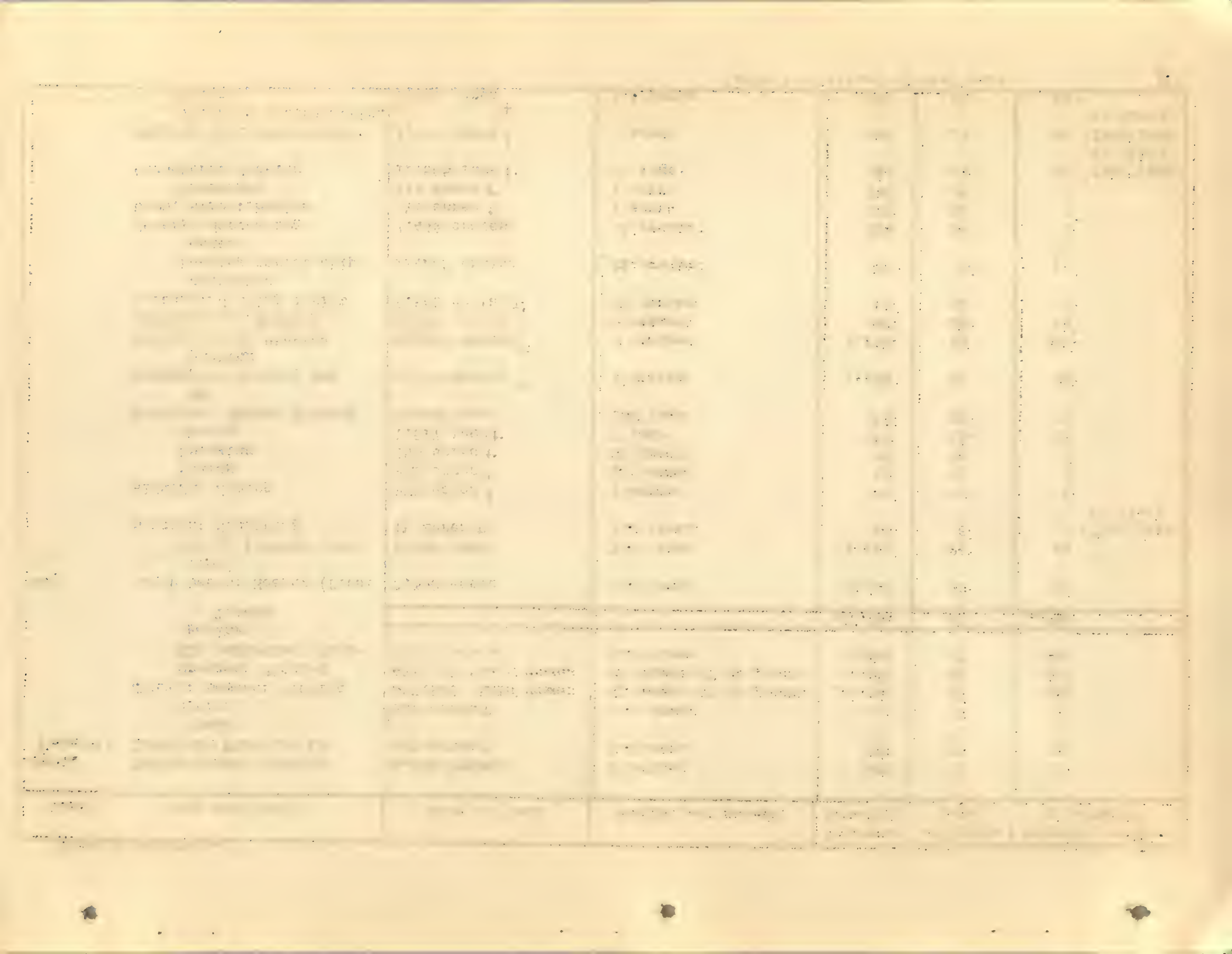

Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
May (cont'd)	Squash: Picking	7,949 lugs †	20 lugs	398	13	31 (from 15th to 31st)
	String beans: Picking	6,975 crates	4 crates	1,744	26	67
	Tomatoes: Planting in field	1,305 acres †	1.5 acres	870	26	34
	Hoeing	932 acres †	2.0 acres	466	26	18
	Citrus: Lemons: Picking	187,956 field boxes	17 boxes of 50 pounds	11,057	26	426
	Oranges: Picking	1,712,501 field boxes	50 boxes of 55 pounds	34,250	26	1,318
	Grapefruit: Picking	40,145 field boxes	75 boxes of 40 pounds	536	26	21
	Totals			65,234	26	2,509
June	Beans, Lima: Hoeing	13,898 acres	2.5 acres	5,560	26	214 (from 15th to 30th)
	Beans, blackeye: Hoeing (first time)	8,637 acres	6 acres	1,440	26	56
	Sugar beets: Hoeing (second time)	3,390 acres	3.0 acres	1,130	26	44
	Grain: Harvesting	2,877 acres †	4.0 acres	720	26	28
	Popcorn: Suckering	72 acres †	1.5 acres	48	26	2
	Alfalfa: Mowing	950 acres †	9 acres	106	26	5
	Raking	950 acres †	15 acres	64	26	3
	Shocking	950 acres †	20 acres	48	26	2
	Baling	1,517 tons †	3 tons	506	26	20
	Grain hay: Baling	4,056 tons †	3 tons	1,352	26	52
	Potatoes, Irish: Picking up	21,662 lugs	125 lugs	174	26	7
	Asparagus: Cutting and packing	3,879 crates †	5 crates	776	26	30
	Strawberries: Picking	36,525 crates †	4 crates	9,132	26	352 ¶
	Bushberries: Picking	14,718 crates	8 crates	1,840	26	71 ¶
	Celery: Harvesting	8,190 crates	34 crates	241	26	10
	Corn, sweet: Hoeing	178 acres †	1 acre	178	26	7
	Suckering	178 acres †	1 acre	178	26	7
	Picking and packing	11,166 lugs †	50 lugs	224	17	14 (from 10th to 30th)
	Cucumbers: Picking	34,515 lugs †	30 lugs	1,151	26	45

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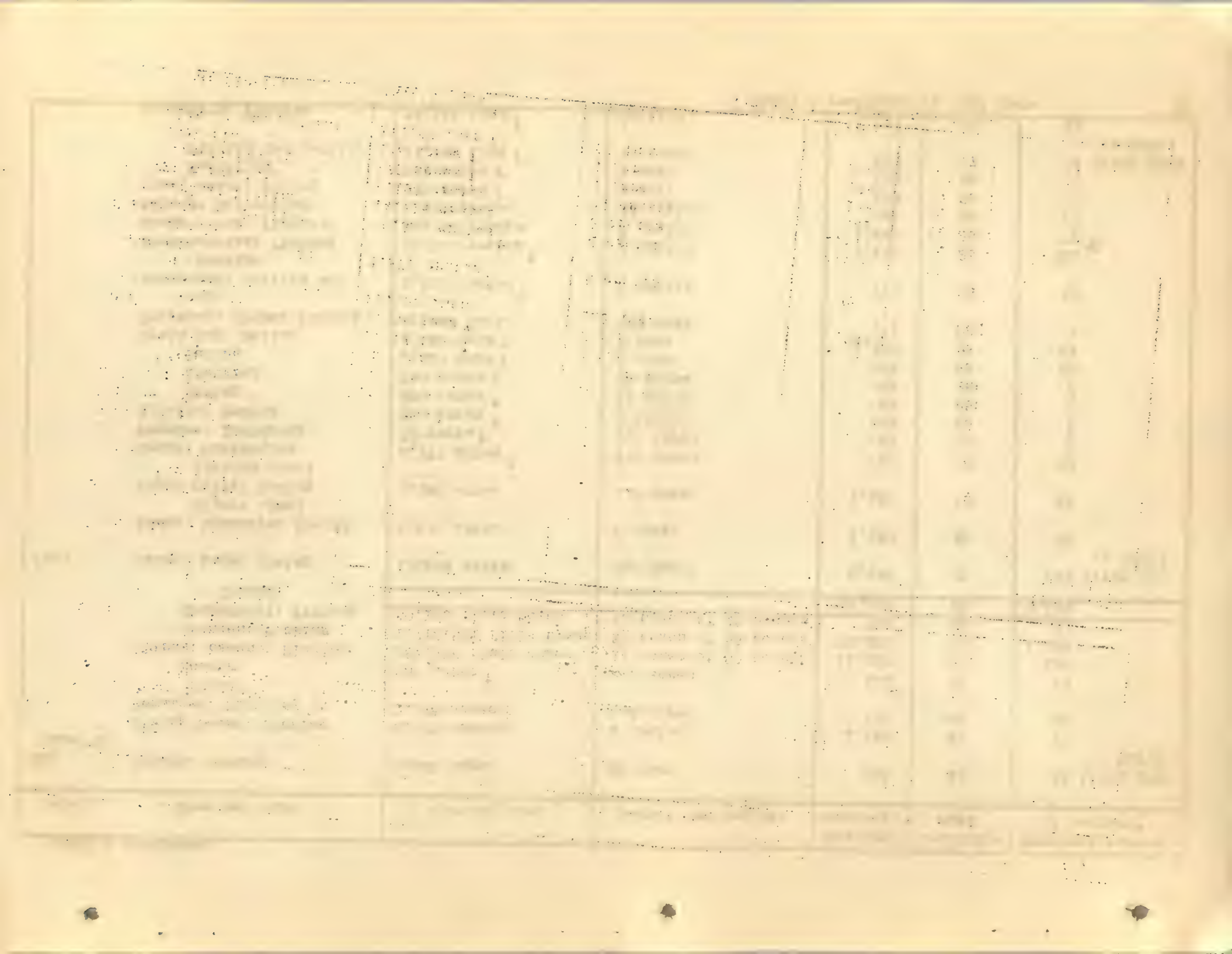


Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
June (cont'd)	Peppers (all varieties): Thinning and resetting	1,079 acres †	2 acres	540	13	42 (from 1st to 15th)
	Hoeing	1,079 acres †	2 acres	540	26	21
	Squash: Picking	7,949 lugs †	20 lugs	398	13	31 (from 1st to 15th)
	String beans: Picking	11,625 crates	4 crates	2,907	26	112
	Tomatoes: Planting in field	653 acres †	1.5 acres	436	26	17
	Hoeing	932 acres †	2.0 acres	466	26	18
	Dusting	882 acres †	10.0 acres	89	26	4
	Picking for market and shipping	19,013 lugs †	20 packed lugs	951	26	37
	Citrus: Lemons: Picking	98,725 field boxes	15 boxes of 50 pounds	6,582	26	254
	Oranges: Picking	1,975,963 field boxes	50 boxes of 55 pounds	39,520	26	1,520
	Grapefruit: Picking	40,145 field boxes	75 boxes of 40 pounds	535	26	21
	Totals			77,832	26	2,994
July	Beans, Lima: Hoeing	27,796 acres	2.5 acres	11,119	26	428
	Beans, blackeye: Hoeing (second time)	8,637 acres	15 acres	576	26	23
	Grain: Harvesting	2,877 acres †	4 acres (in 8 hours)	720 (of 8 hours)	26	28
	Field corn: Suckering	60 acres †	1.5 acres	40	26	2
	Alfalfa: Mowing	950 acres †	9 acres	106	26	5
	Raking	950 acres †	15 acres	64	26	3
	Shocking	950 acres †	20 acres	48	26	2
	Baling	1,517 tons †	3 tons	506	26	20
	Grain hay: Baling	8,112 tons †	3 tons	2,704	26	104
	Potatoes, Irish: Picking up	21,662 lugs	125 lugs	174	26	7
	Asparagus: Cutting and packing	530 crates †	5 crates	106	13	9 (from 1st to 15th)
	Bushberries: Picking	8,830 crates	6 crates	1,472	26	57
	Celery: Harvesting	8,934 crates	34 crates	263	26	11

Table 3 continued on next page.

Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
July (cont'd)	Corn, sweet: Suckering	178 acres †	1 acre	178	26	7
	Picking and packing	32,383 lugs †	50 lugs	648	26	25
	Peppers (all varieties): Hoeing	1,079 acres †	3 acres	360	26	14
	String beans: Picking	9,300 crates	4 crates	2,325	26	90
	Tomatoes: Hoeing	466 acres †	2.0 acres	233	26	9
	Dusting	882 acres † †	7.5 acres	118	26	5
	Picking for market	209,146 lugs †	20 packed lugs	10,458	26	403
	Citrus: Lemons: Picking	93,029 field boxes	15 boxes of 50 pounds	6,202	26	239
	Oranges: Picking	2,824,895 field boxes	50 boxes of 55 pounds	56,498	26	2,173
	Grapefruit: Picking	40,145 field boxes	75 boxes of 40 pounds	535	26	21
	All varieties: Fumigating	1,212 acres	0.75 acre	1,616	13	125 (from 15th to 31st)
	Spraying	2,015 acres	1.1 acres	1,832	13	141 (from 15th to 31st)
	Totals			98,901	26	4,132
August	Beans, Lima: Hoeing	13,898 acres	2.5 acres	5,560	26	214
	Beans, blackeye: Piling	8,637 acres	2 acres	4,319	26	167
	Sugar beets: Topping and loading	19,542 tons	5 tons	3,909	26	151
	Alfalfa: Mowing	950 acres †	9 acres	106	26	5
	Raking	950 acres †	15 acres	64	26	3
	Shocking	950 acres †	20 acres	48	26	2
	Baling	1,517 tons †	3 tons	506	26	20
	Grain hay: Baling	4,056 tons †	3 tons	1,352	26	52
	Bushberries: Picking	2,943 crates	6 crates	491	26	19
	Celery: Harvesting	7,445 crates	34 crates	219	26	9
	Corn, sweet: Picking and packing	31,266 lugs †	50 lugs	626	26	25
	String beans: Picking	4,646 crates	4 crates	1,162	26	45
	Tomatoes: Hoeing	217 acres †	2.0 acres	109	26	5
	Dusting	882 acres † †	5.0 acres	177	26	7
	Picking for market and shipping	218,653 lugs †	20 packed lugs	10,933	26	421
	Picking for canning	1,819 tons	2,000 pounds	1,819	26	70

Table 3 continued on next page.

Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
August (cont'd)	Citrus: Lemons: Picking	51,261 field boxes	13 boxes of 50 pounds	3,944	26	152
	Oranges: Picking	2,415,066 field boxes	50 boxes of 55 pounds	48,302	26	1,858
	Grapefruit: Picking	13,348 field boxes	75 boxes of 40 pounds	178	26	7
	All varieties: Fumigating	4,040 acres	0.75 acre	5,387	26	208
	Spraying	6,045 acres	1.1 acres	5,496	26	212
	Walnuts: Harvesting	778 tons	240 pounds	6,484	9	721 (from 20th to 31st)
	Totals			101,191	26	3,807
September	Beans, Lima: Piling	27,796 acres	2 acres	13,898	26	535
	Threshing	145,095 cwt.	25 cwt.	5,804	26	224
	Beans, blackeye: Threshing	58,728 cwt.	25 cwt.	2,350	26	91
	Sugar beets: Topping and loading	19,542 tons	5 tons	3,909	26	151
	Field corn: Husking	40 tons	3,000 pounds	27	14	2 (for 14 days)
	Popcorn: Husking	21 tons	700 pounds	60	13	5 (from 15th to 30th)
	Alfalfa: Mowing	950 acres †	9 acres	106	26	5
	Raking	950 acres †	15 acres	64	26	3
	Shocking	950 acres †	20 acres	48	26	2
	Baling	1,517 tons †	3 tons	506	26	20
	Potatoes, sweet: Picking up and boxing	2,984 lugs †	20 lugs	149	8	17 (from 20th to 30th)
	Seed (tomato): Washing out seed	16,875 pounds	67 pounds	252	26	10
	Straw (bean): Baling	9,200 tons †	2 tons	4,600	26	177
	Celery: Harvesting	3,723 crates	34 crates	110	26	5
	Corn, sweet: Picking and packing	24,566 lugs †	50 lugs	492	26	19
	Peppers: Picking green chili for canning	30 tons	1.5 tons	20	4	5 (for 4 days)
	Picking pimientos	114 tons	1.5 tons	76	13	6 (from 15th to 30th)

Table 3 continued on next page.

Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
September (cont'd)	String beans: Picking	4,646 crates	4 crates	1,162	26	45
	Tomatoes: Dusting	882 acres †	2.0 acres	441	26	17
	Picking for market and shipping	199,640 lugs†	20 packed lugs	9,982	26	384
	Picking for canning	2,728 tons	2,000 pounds	2,728	26	105
	Picking for seed	1,687 tons	2,600 pounds	1,300	26	50
	Citrus: Lemons: Picking	47,463 field boxes	13 boxes of 50 pounds	3,651	26	141
	Oranges: Picking	1,917,416 field boxes	50 boxes of 55 pounds	38,349	26	1,475
	All varieties: Fumigating	2,020 acres	0.75 acre	2,694	26	104
	Spraying	8,060 acres	1.1 acres	7,328	26	282
	Walnuts: Harvesting	2,332 tons	240 pounds	19,434	26	748
	Totals			119,540	26	4,954
October	Beans, Lima: Threshing	145,095 cwt.	25 cwt.	5,804	25	233
	Sugar beets: Topping and loading	19,542 tons	5 tons	3,909	25	157
	Field corn: Husking	40 tons	3,000 pounds	27	14	2 (for 14 days)
	Popcorn: Husking	42 tons †	700 pounds	120	25	5
	Alfalfa: Mowing	950 acres †	9 acres	106	25	5
	Raking	950 acres †	15 acres	64	25	3
	Shocking	950 acres †	20 acres	48	25	2
	Baling	1,517 tons †	3 tons	506	25	21
	Potatoes, sweet: Picking up and boxing	17,786 lugs †	20 lugs	890	25	36
	Seed (tomato): Washing out seed	16,875 pounds	67 pounds	252	25	11
	Straw (bean): Baling	9,200 tons †	2 tons	4,600	25	184
	Cabbage: Planting	38 acres †	0.33 acre	114	12	10 (from 15th to 31st)
	Celery: Harvesting	4,467 crates	34 crates	132	25	6
	Corn, sweet: Picking and packing	8,933 lugs †	50 lugs	179	25	8

Table 3 continued on next page.

Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
October (cont'd)	Peppers: Picking green chili for canning	20 tons	1.5 tons	14	3	5 (for 3 days)
	Picking chili for drying (green weight)	4,440 tons	1.5 tons	2,960	25	119
	Picking pimientos	228 tons	1.5 tons	152	25	7
	String beans: Picking	4,646 crates	4 crates	1,162	25	47
	Tomatoes: Picking for market and shipping	161,613 lugs†	20 packed lugs	8,081	25	244
	Picking for canning	2,728 tons	2,000 pounds	2,728	25	110
	Picking for seed	1,687 tons	2,600 pounds	1,300	25	52
	Citrus: Lemons: Picking	26,580 field boxes	12 boxes of 50 pounds	2,215	25	89
	Oranges: Picking	2,136,968 field boxes	50 boxes of 55 pounds	42,740	25	1,710
	All varieties: Spraying	8,060 acres	1.1 acres	7,328	25	294
	Persimmons: Picking	1,170,112 pounds†	1,800 pounds	650	25	26
	Walnuts: Harvesting	4,276 tons	240 pounds	35,633	25	1,426
	Totals			121,714	25	4,221
November	Popcorn: Husking	7 tons	700 pounds	20	6	4 (from 1st to 7th)
	Potatoes, sweet: Picking up and boxing	8,893 lugs†	20 lugs of 30 pounds	445	24	19
	Seed (tomato): Washing out seed	11,250 pounds	67 pounds	168	24	7
	Cabbage: Planting	76 acres†	0.33 acre	228	24	10
	Hoeing	28 acres†	0.75 acre	38	24	2
	Celery: Harvesting	5,956 crates	34 crates	176	24	8
	Peas: Picking	632 crates	2 crates	316	24	14
	Peppers: Picking chili for drying (green weight)	4,440 tons	1.5 tons	2,969	24	124
	Picking pimientos	114 tons	1.5 tons	76	12	7 (from 1st to 15th)
	String beans: Picking	1,860 crates	3 crates	620	24	26
	Tomatoes: Picking for market and shipping	85,560 lugs†	20 packed lugs	4,278	24	179
	Picking for canning	1,819 tons	2,000 pounds	1,819	24	76
	Picking for seed	1,125 tons	2,600 pounds	866	24	37

Table 3 continued on next page.

Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
November (cont'd)	Citrus: Lemons: Picking	62,652 field boxes	13 boxes of 50 pounds	4,820	24	201
	Oranges: Picking	746,475 field boxes	50 boxes of 55 pounds	14,930	24	622
	All varieties: Spraying	2,418 acres	1.1 acres	2,199	12	184 (from 1st to 15th)
	Persimmons: Picking	130,012 pounds †	1,800 pounds	73	8	9 (from 1st to 10th)
	Walnuts: Harvesting	389 tons	240 pounds	3,242	8	406 (from 1st to 10th)
	Totals			37,274	24	1,553
December	Strawberries: Setting out new plants	5.5 acres †	0.33 acre	17	17	1
	Cabbage: Planting	114 acres †	0.33 acre	342	22	16
	Hoeing	57 acres †	0.75 acre	76	22	4
	Celery: Harvesting	7,445 crates	34 crates	219	22	10
	Peas: Picking	4,209 crates	2 crates	2,105	22	96
	Peppers: Picking chili for drying	2,220 tons	1.5 tons	1,480	22	68 (from 1st to 25th)
	String beans: Picking	930 crates	2 crates	465	22	22
	Tomatoes: Picking for market	47,533 lugs †	20 packed lugs	2,377	22	105
	Citrus: Lemons: Picking	140,492 field boxes	15 boxes of 50 pounds	9,367	22	426
	Oranges: Picking	87,820 field boxes	50 boxes of 55 pounds	1,757	22	80
	All varieties: Fumigating	2,424 acres	0.75 acre	3,232	22	147
	Totals			21,437	22	975

* On a monthly basis unless otherwise stated.

† Estimated portion of job done by seasonal workers.

‡ Picking of all citrus fruit has been included as done by seasonal workers, although a considerable portion of this work is done by persons who are more or less steadily employed on a daily basis.

§ Strawberries often require from 2 to 4 pickers per acre at the peak of the season of whom about one third are regular employees.

¶ Bushberries often require about 3 pickers per acre at the peak of the season.

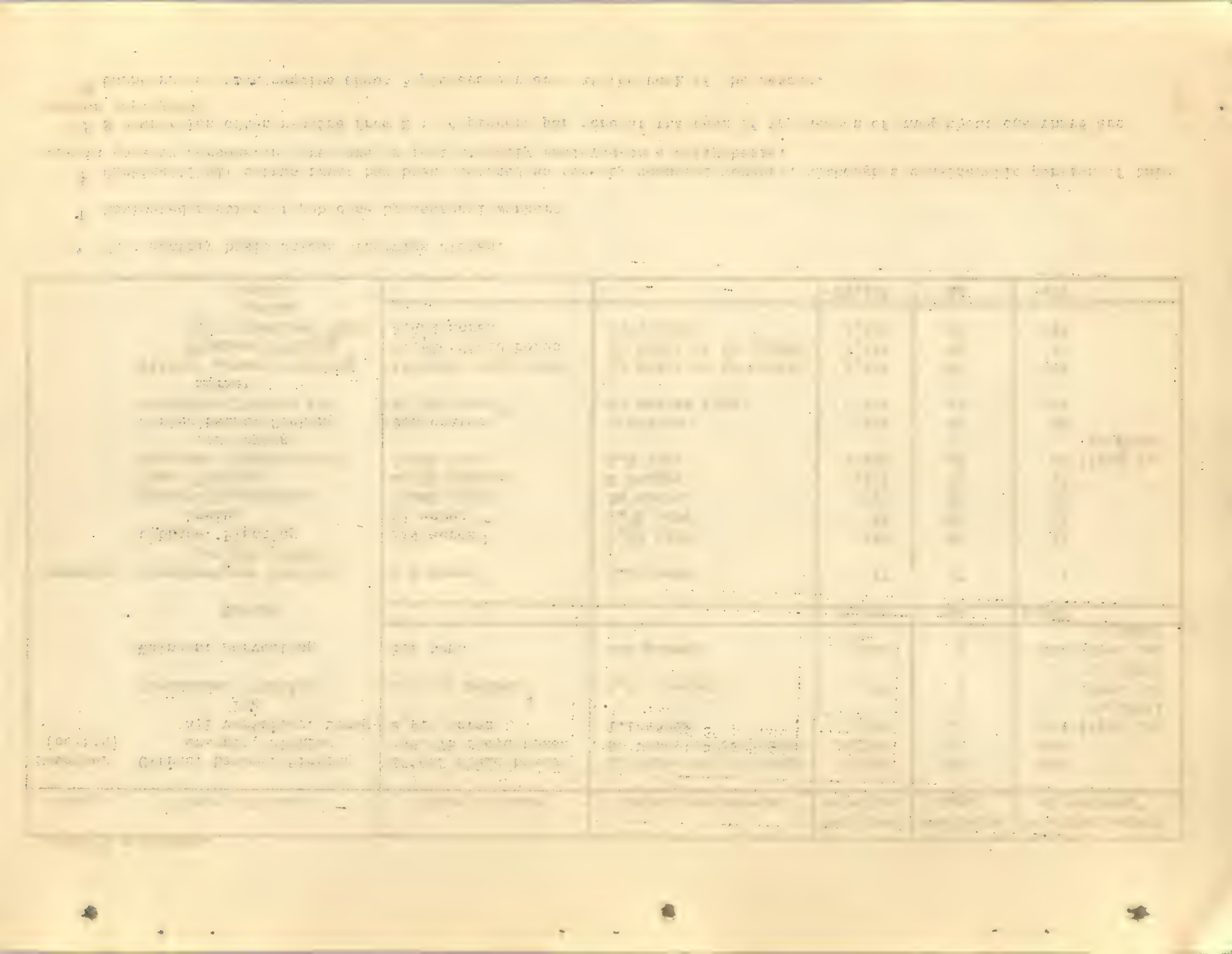
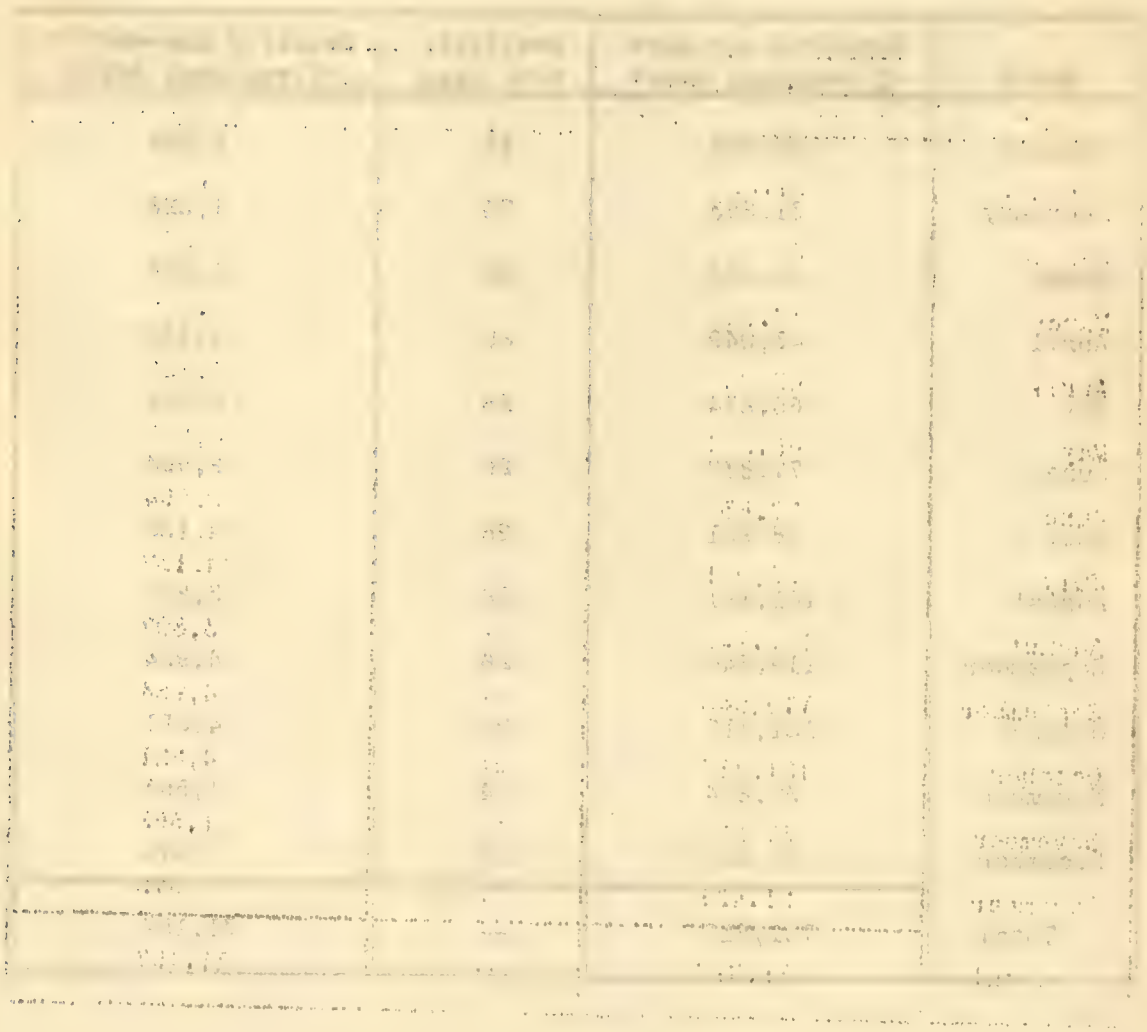


TABLE 4

Summary of Seasonal Labor Needs by Months
Orange County
1935

Month	Required man-days of seasonal labor	Available work days	Required man-months of seasonal labor
January	27,656	19	1,456
February	31,853	24	1,328
March	36,133	24	1,506
April	43,049	25	1,722
May	65,234	26	2,509
June	77,832	26	2,994
July	98,901	26	4,132
August	101,191	26	3,807
September	119,540	26	4,954
October	121,717	25	4,221
November	37,274	24	1,553
December	21,437	22	975
Total	781,817	--	31,157



Notes

Notes on Table 2.-- Data concerning "time of need," as shown in this table break down required seasonal labor into the period when the work is performed in order to permit a subsequent determination of labor needs by months (table 3). Some operations are performed only to a limited extent by seasonal workers. For instance, only about 75 per cent of the harvesting of sweet potatoes is estimated to have been done by seasonal workers. This having been done in three different months, a portion was assigned to each.

The amount of work done each month is based on the cropping system followed during 1935. The allotting of amounts of work is based on findings concerning local farm practices and required time to "make" a crop, resulting from inquiry of producers, and records of shipments, the latter proving helpful in fixing dates of planting and subsequent tasks involved in producing a given crop. Proportionate amounts of output harvested each month were determined from data of local practices with respect to harvesting, and from carlot shipments of perishable products. In some cases, records of unloads of truck shipments at Los Angeles from the "local" district were used.

Notes on Table 3.-- Table 3 is the condensed summary of labor needs as worked out for Orange County, as a result of findings pertinent to 1935. The data are presented by months with the tasks which were performed in each month indicated by both crop and task. The size of the job was calculated from the data appearing in table 1 (acreage and production) and table 2 (task, time of performance, and percentage of work pertinent to a given month). The output per man-day was calculated as indicated in the foreword presenting table 3. The number of required man-days is a result of dividing the size of task by output per man-day. The available days for the different tasks involve two variables. The first is the number of days when field work is possible because of favorable weather conditions. The basis for this column was determined from a study of the monthly weather charts of the United States Weather Bureau for the years 1933, 1934, and 1935. These data indicated available days per month as follows (based on a 26-day working month without allowance for holidays):

Month	Available days *	Month	Available* days
January	19	July	26
February	24	August	26
March	24	September	26
April	25	October	25
May	26	November	24
June	26	December	22

* Based on precipitation record of the weather station for the years 1933, 1934, and 1935, from the United States Weather Bureau.

The second factor influencing the number of available days was the size of the job. If the output was but for a few cars, then the number of days was limited to the time needed to get out these cars efficiently. If a field operation

had to be performed in a period less than the number of available days in the month, then the specific number of days was noted. These restrictions are shown in parentheses. For example, in September, picking up of sweet potatoes was limited to the last ten days of the month; husking of field corn to fourteen days, etc.

The totals of table 3 show the total required man-days of needed seasonal labor, the available days for field work during the month, and the number of men (as defined in the opening paragraph of table 3) required on a monthly basis to care for the tasks ordinarily performed by seasonal workers.

In an area such as Orange County, involving a substantial acreage of truck crops, the findings as set forth in this report are bound to fluctuate materially from year to year, because of the influence of market outlook upon what and how much acreage is planted, and when it is planted; because of variable seasonal conditions affecting yields, times of performing operations, and available days; and because of harvesting operations on certain crops being speeded up to supply a good market or retarded to avoid a poor one, resulting in marked variations in the need for harvest labor.